

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1 and 11-18 are pending in the present application. Claim 1 is amended, Claims 2-10 are cancelled without prejudice or disclaimer, and Claims 11-18 are added by the present amendment.

In the outstanding Office Action, Claims 1-10 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention; Claim 9 was rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,487,392 to Sonetaka; Claims 1-2, 4-7, and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Sonetaka in view of U.S. Patent No. 5,493,436 to Karasawa; and Claims 2 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Sonetaka in view of Karasawa and U.S. Patent No. 6,310,705 to Lee.

Regarding the rejection of Claims 1-10 under § 112, second paragraph, Claim 1 has been amended to address the comments in paragraph 1 of the Office Action. Further, Applicants note that the term “radio base station”, by way of convention, is used to denote any base station, regardless of whether the base station receives radio or optical signals (Applicants’ specification, page 4, lines 7-11; page 5, lines 7-9). Accordingly, Applicants respectfully request that this rejection be withdrawn.

After cancellation of Claims 2-10, only the rejection of Claim 1 under § 103(a) as unpatentable over Sonetaka in view of Karasawa remains to be addressed. That rejection is respectfully traversed.

Amended Claim 1 is directed to a central control station including, in part:

signal conversion units which are coupled to said demultiplexing unit and convert the respective demultiplexed sequences of signals into converted signals having a unified transmission format;

....

a distribution unit which is provided between said signal conversion units and units of said radio signal transmitting and receiving units and said optical signal transmitting and receiving units, and provides a communication connection for sending the converted signals having the unified format between a predetermined one of the base stations and the upper-level station.

Thus, amended Claim 1 recites a distribution unit that sends signals having a unified transmission format from both radio and optical transmitting units to predetermined base stations. A unified transmission format is one that is compatible for distribution over both radio and optical communication links (Applicants' specification, page 5, lines 11-16). By converting the demultiplexed signals into signals having a unified format, transceivers and signal conversion units may be shared amongst the radio and optical communication links (Applicants' specification, page 5, lines 19-22 and 28-30). Further, because the distribution unit distributes signals of a unified format, the distribution unit can more efficiently switch between communication links, and thereby more quickly take signal traffic conditions into account (Applicants' specification, page 6, lines 25-28).

The prior art is devoid of these teachings. As explained in the "Background of the Invention" with reference to Figure 10, when the communication links between a conventional central control station 30 and corresponding radio base stations 31, 32, 34 are both radio and optical, signal converters cannot be shared amongst the communication links because of their different signal transmission formats (Applicants' specification, page 4, lines 7-11). Further, because modems and frequency converters must be provided for each radio link, and because signal converters and base-band multiplexers must be provided for each optical link (Applicants' specification, page 4, lines 15-22), there is excessive fragmentation and investment for these resources. Accordingly, the present invention is provided to fulfill

the need for a central control station that harmonizes the transmission formats for radio and optical communication links, and that centralizes signal equipment for shared use amongst radio and optical communication systems (Applicants' specification, page 5, lines 23-30).

The outstanding Office Action cites the combination of Sonetaka and Karasawa as teaching a central control station that demultiplexes and converts a single signal into signals of a unified transmission format (Office Action, 10/06/2003, page 4, para. 1). However, Sonetaka does not teach the use of a unified transmission format. Further, at the least, Karasawa does not teach the distribution of signals having a unified format over both radio and optical links. Rather, Karasawa teaches the transmission of signals of a unified transmission format to base stations via only optical communication links (see Figures 1-4). This is simply a background technology upon which the claimed invention has been made.

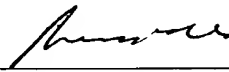
Accordingly, for the reasons stated above, Applicants respectfully request that the rejection of Claim 1, under § 103(a) as unpatentable in view of Karasawa, be withdrawn.

New Claims 11-18 are added by the present amendment to set forth the present invention in a varying scope. More particularly, new Claims 11-13 each recite further limitations supported by at least Figures 4A-4C and Figure 5 (Applicants' specification, page 20, line 4 – page 21, line 16); new Claim 14 recites features similar to those of Claim 1, but recites the signal conversion unit in means-plus-function terminology; new Claims 15-17 are similar to Claims 11-13, but depend from Claim 14; and Claim 18 is similar to Claim 1, but is directed to a method of connecting the upper-level station and radio base stations. Applicants respectfully submit the new Claims are allowable for similar reasons as Claim 1, or by virtue of their dependency upon an allowable claim.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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